

Application No.: 10/656,481

Docket No.: TOW-041RCE

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A fuel cell comprising:

an electrolyte electrode assembly including a pair of electrodes and an electrolyte interposed between said electrodes, said electrodes including respective gas diffusion layers and respective electrode catalyst layers facing said electrolyte, a surface area of one of said gas diffusion layers being larger than a surface area of the other of said gas diffusion layers, said one gas diffusion layer including an outer marginal region extending outwardly beyond an outer region of said other gas diffusion layer;

first and second metal separators for sandwiching said electrolyte electrode assembly, said first and second metal separators having respective reactant gas flow fields for supplying reactant gases to said electrodes; and

a seal member having an outer portion interposed between and contacting said first metal separator and said outer marginal region and said first metal separator said electrolyte, and an inner portion interposed between and contacting the first metal separator and a planar portion of the other gas diffusion layer the seal member being in contact with said other gas diffusion layer, wherein

wherein said inner portion of the seal member includes a flow field wall inserted between said outer region of said other gas diffusion layer and said first metal separator, said flow field wall defining one portion of power generation areas of said electrodes,

wherein a side of said flow field wall, said outer region of said other gas diffusion layer, and said first metal separator define an outermost one of said reactant gas flow fields.

2. (Original) A fuel cell according to claim 1, wherein

said first metal separator includes a surface in contact with said electrode, and a flat surface spaced from said electrode;

said seal member further includes a main seal interposed between said electrolyte and said flat surface; and

said flow field wall is interposed between said outer region of said other gas diffusion layer and said flat surface.

3. (Original) A fuel cell according to claim 1, wherein said reactant gas flow field is a

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serpentine flow passage having at least one turn region;

said seal member further includes a partition seal in contact with said first metal separator and said other gas diffusion layer, said partition seal extending into said turn region of said reactant gas flow field to form said serpentine flow passage, said serpentine flow passage comprising grooves sealed air-tight; and

said reactant gas flows through said grooves along both sides of said partition seal in opposite directions.

4. (Original) A fuel cell according to claim 3, wherein

said first metal separator includes a surface in contact with said electrode, and a flat surface spaced from said electrode; and

said partition seal is interposed between said electrode and said flat surface.

5. (Canceled)

6. (New) A fuel cell, comprising:

an electrolyte electrode assembly including an electrolyte, a first electrode catalyst layer and a first gas diffusion layer disposed on a first side of the electrolyte, and a second electrode catalyst layer and a second gas diffusion layer disposed on a second opposite side of the electrolyte, wherein a surface area of the second gas diffusion layer is larger than a surface area of the first gas diffusion layer, the second gas diffusion layer having an outer marginal region extending outwardly beyond an outer region of the first gas diffusion layer;

first and second metal separators sandwiching said electrolyte electrode assembly; and
a seal member having an outer portion interposed between and contacting the first metal separator and the electrolyte, and an inner portion interposed between and contacting the first metal separator and a planar portion of the first gas diffusion layer.